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HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES
UNITED STATES HOUSE OF REPRESENTATIVES

PRESENTATION TO THE
HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES
UNITED STATES HOUSE OF REPRESENTATIVES

HEARING DATE/TIME: April 27, 2022 2:00 P.M.

SUBJECT: FY23 Budget Request of the Department of the Air Force for Fixed-Wing Tactical
and Training Aircraft Programs

STATEMENT OF:

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(Acquisition, Technology & Logistics)

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INTRODUCTION

Chairman Norcross, Ranking Member Hartzler, and distinguished members of the subcommittee, thank you for having us here today to provide testimony on the United States Air Force's Fiscal Year 2023 (FY23) budget request for fixed-wing tactical and training aircraft. The leadership and support of this subcommittee is critical to our achievement of national security priorities to defend the homeland, deter nuclear and non-nuclear strategic attacks, deter aggression and be prepared to prevail in conflict, and build a resilient joint force.

The Department of the Air Force consists of approximately 700,000 Airmen and Guardians that enable our country to meet the challenges associated with the full range of national security threats. Providing our Airmen and Guardians with the capabilities they need to deter, and if necessary, win is our most sacred obligation. The advancements of China's military modernization efforts and Russian aggression in Eastern Europe highlight the pacing challenges we face and the urgency with which we must act.

The Department of the Air Force's FY23 President's budget request aims to accelerate the development and fielding of a more modern and operationally relevant force that the current strategic environment demands. Our budget request balances the risks of maintaining the current operational requirements of combatant commands with the need to develop and deliver the Air Force needed. The aircraft we seek to retire have served us well and exceeded the requirements they were developed to meet. However, they are not well-suited for today's contested environments or future high-end conflicts. The average age of the Air Force fleet is 29 years with many aircraft flying beyond their intended lifespan and becoming significantly more expensive to sustain.

With congressional support in Fiscal Year 2022, the Air Force was allowed to begin the transition to better face our pacing challenge. While grateful for this support, we continue to face restrictions on the retirement of outdated fighter, tanker, cargo, and command and control aircraft. These restrictions impede investment in the necessary capabilities to deter competitors and win future conflicts. We are conscious of the difficulties associated with these changes and are eager for continued collaboration with Congress, industry, and the communities that support our Air Bases to ensure our Nation's security.

CURRENT CAPACITY AND CAPABILITY

Following National Defense Strategy (NDS) guidance, the Air Force seeks to invest in technologies and field systems that are both lethal and survivable against a peer threat. This ultimately means transitioning away from many legacy platforms in order to free up manpower and resources to modernize and field more capable systems. If we are to modernize to address the emerging threat, we must use resources tied to our legacy platforms and weapons systems that are decreasing in relevance today and will be irrelevant in the future. Retaining systems that have either limited contributions, or are simply not relevant in the future fight, delays modernization and exacerbates future capability gaps. If deterrence fails, our Airmen must have the training, tools, platforms, and operating systems required to win. We must strike a balance between risk in the near-term and risk in the future.

Acquisition Focus

With the completion of the NDS and the arrival of the Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics, SAF/AQ has begun to assess the current programs of the Department of the Air Force and evaluate ongoing efforts to adapt acquisition policies and processes to overcome the pacing challenges posed by the People's Republic of China and deter threats of other strategic competitors.

In the initial stages this involves a number of key focus areas including: delivery of operational capability and meeting the needs, both current and future, of U.S. forces who are confronting rapidly evolving challenges from strategic competitors; modernize our nuclear deterrent to ensure it remains credible and secure; sustaining a complex and aging Air Force fleet; improving our ability to field innovative new capabilities and especially to acquire software and software-intensive systems; and supporting and developing the skills of our acquisition workforce, allowing them to help our forces meet the challenges we face. A key enabler of these activities is our advancing capabilities for digital acquisition.

Throughout the first 100 days, SAF/AQ will be engaging with Department leadership, the Program Executive Officers, and industry, both traditional and non-traditional, to establish clear priorities for the acquisition enterprise. Once set, I welcome the opportunity to share those priorities with this subcommittee and answer any questions you may have.

Fighter Force Structure

The Air Force must continue to evolve its fighter force to meet the pacing challenge posed by China and the acute threat posed by Russia and ensure the capability and capacity to meet worldwide demands today. Extensive gaming and analysis using the most difficult problem (China) and the most difficult scenario (Taiwan) at the most difficult time (2035), shows that the Air Force must adjust the future fighter force structure mix by changing investment priorities to provide the capability, capacity, and affordability required to defeat any peer threat. The threat will not allow the Air Force to just retain and modernize our current fleets. Modernization programs cannot transform our current 4th generation fighters into 5th generation fighters, or our current 5th generation fighters into Next Generation Air Dominance (NGAD).

In realistic budget projections, we must balance the need for high end technology with affordable capacity. To attain this desired fighter fleet, the Air Force must continue to right size current aircraft inventories to expedite the transition away from less capable, aging aircraft and emphasize investment in future capabilities such NGAD and F-35 modernization. The desired Air Force fighter fleet should match capability and capacity of both platforms and weapons to mission requirements. As part of its force structure change, the Air Force must transition its fighter fleet from seven platforms (i.e., F-35, F-22, F-16, F-15EX, F-15E, F-15C, A-10) to four (i.e., NGAD, F-35, F-15EX, F-16).

On the path to achieving the desired future fighter fleet, the FY23 President's Budget proposes a net change of minus 84 fighter aircraft in FY23, and a total FYDP net change of minus 346 fighter aircraft. These divestitures are critical to building a relevant future force capable of meeting our NDS peer competitor. Resourcing those future capabilities and modernizing our remaining force demands both money and manpower currently tied up in our legacy systems and platforms.

Fighter Force Structure Studies

Our fighters are becoming significantly more expensive to sustain as they age. The average age of the USAF fleet is 29 years which is significantly higher than all other Services. Weapons System Sustainment (WSS) costs have increased approximately 40% above inflation over FY16-27. We need new platforms and weapons to replace an aging force, but also must invest in cutting edge technology needed to confront and pace threats.

Both internally and alongside Office of the Secretary of Defense, the Air Force has performed a TACAIR analysis to evaluate how efficiently different force mixes meet future warfighting challenges in the 2035-2040 timeframe. Specifically, this study focused on fighter force mixes and quantities that were both affordable and militarily effective. The Air Force TACAIR Study was an initial step in creating a long-term plan for our fighter force. While this study was not published, it was used internally by the Air Force to inform both FY23 and future year programming efforts.

Next Generation Air Dominance (NGAD)

The Air Force is investing in technologies as part of a family of capabilities to assure air dominance in the future. NGAD capabilities enable counter-air missions in highly contested operational environments in order to protect and support the Joint Force and replaces the F-22. The requirement to establish and maintain air superiority within the battlespace cannot be understated as it underpins the joint force operations in any theater. NGAD is our program that supports studies, analyses, technical maturation, and prototyping activities leading to enhancements in lethality, survivability, interoperability, and persistence to ensure air superiority. The Air Force is ensuring affordability and cost control on NGAD through sustained competition for the vehicle and mission systems, adoption of a government-owned open architecture, and digital engineering that stretches into operations and sustainment. The FY23 President's budget requests \$1.66 billion in FY23 to fund the continued development of a next generation open mission system architecture, advanced sensors, cutting-edge communications using open standards, and integration of the most promising technologies into the family of capabilities. Furthermore, this program incorporates novel agile acquisition practices through its competitive industry consortium approach that is yielding favorable results and providing greater value for the taxpayer. Our efforts are being shaped by multiple analyses, including recommendations from the Chief of Staff of the Air Force-approved Air Superiority 2030 Flight Plan, recently completed NGAD Analysis of Alternatives, and several others from renowned analytic organizations. Continued investment in NGAD technologies is critical to ensuring continued air dominance within emerging threat environments for all future joint operations.

Collaborative Combat Aircraft (CCA)

CCA are a part of the NGAD family of systems. These un-crewed weapon systems will be designed to work in conjunction with current and next-generation manned aircraft. CCA

development draws from and matures autonomous technologies developed in the Air Force Research Laboratory's (AFRL's) Skyborg Vanguard program. The next phase of CCA development will pursue a streamlined concept refinement activity to identify employment concepts, operational requirements, and cost. These concepts are expected to span the design space across expendable, attritable, and exquisite capabilities. The concept refinement phase is ongoing now, leveraging and expanding the diverse range of industry partners developed for the NGAD program, to discover the state of the art.

F-35

The F-35 is the cornerstone of our future fighter fleet. The F-35 today is dominant, purpose built, and equipped with advanced weapons for the contested environment. In the near-term, we must concentrate on achieving the F-35 capability needed for advanced threats. While the F-35 is a formidable platform today, the Air Force must confront key development, interoperability, sustainability, and affordability challenges to acquire, upgrade, and retrofit the F-35A fleet to obtain the minimum required capability and capacity as quickly as possible within projected resource constraints. To keep pace with the threat in future contested scenarios, follow-on modernization efforts centered on "Block 4" enabled by Technical Refresh 3 (TR-3) hardware must be affordably realized on competition-relevant timelines.

The FY23 President's budget request decreases the F-35 procurement quantity in FY23 to 33 from the FY22 enacted position of 48 aircraft. The Air Force is prioritizing investments in the F-35 fleet, seeking modernization, infrastructure, and advanced weapons in this budget request. Commitments include \$4.5 billion to procurement, \$1.1 billion, to development and \$12.3 billion to fund necessary sustainment. This increased investment ensures maximum future viability of the fleet, albeit with lower procurement numbers.

The Air Force has fielded 340 F-35A aircraft with 29 awaiting engines, power modules, or fan modules. The two largest cost drivers the Air Force controls are the number of aircraft possessed and programmed flying hours, and the major cost categories are parts, people, energy, and consumables. Our F-35A Sustainment Affordability Target for cost-per-tail-per-year (CPTPY) is \$4.1 million (BY12\$) based on 1,763 F-35As. The current 2020 Joint Service Cost Position is \$7.8 million (BY12\$) at steady state (2036-2041). The Air Force will continue work with the F-35 Joint Program Office, Navy, and industry to identify and evaluate opportunities to increase depot repair capacity and further reduce the cost of materiel and manpower.

Adaptive Engine Transition Program

The Air Force remains focused on completing planned testing of the prototype adaptive cycle engines and is engaged in the on-going F-35 Joint Program Office Business Case Analysis to inform acquisition planning for upgrading its F-35A aircraft propulsion, power, and thermal management systems. Both Adaptive Engine Transition Program contractors, General Electric Aviation and Pratt and Whitney (a Raytheon Technologies Company), have commenced testing of their respective flight-weight, prototype engines. Test results continue to substantiate significant performance gains in fuel efficiency (up to 25%), thrust (up to 10%), and thermal management capacity, as well as a significant reduction in greenhouse gas emissions (up to 25%) are achievable. The on-going F-35 Joint Program Office Business Case Analysis, along with a companion Air Force operational analysis, will address questions regarding life cycle costs and affordability of equipping F-35A with an adaptive engine. On-going acquisition planning is using the results from these activities to finalize an acquisition strategy.

F-22

The F-22 is the only operational multi-mission air superiority fighter aircraft that combines stealth, supercruise, maneuverability, and integrated avionics to make it the world's most capable air superiority aircraft. The F-22 Block-20s are now in their third decade and they have the highest operating costs of any Air Force fighter, and they do not possess the combat capabilities resident in the F-22 Block-30/35. Remaining committed to ensuring air superiority for the Joint Force in the highly contested environment against a peer adversary, it is imperative to modernize the F-22 to preserve its advantages while concurrently developing Next Generation Air Dominance. In order to resource both, the Air Force seeks to divest the oldest and least capable F-22s (33 F-22 Block-20s) in FY23. In the near term, three heavily modified F-22 Block-20s will be kept for testing. Additionally, the FY23 President's budget request includes \$1.37 billion in FY23 for modernization efforts essential to gain and maintain air superiority against evolving threats. The Rapid Prototyping and Rapid Fielding efforts follow an agile acquisition construct, and combine former TacLink16, Tactical Mandates (TACMAN), Low Drag Tanks & Pylons, Electronic Protection, and GPS M-code programs to deliver slices of each capability on an annual release cadence for capabilities as they mature. Future modernizations will continue to leverage the agile construct as a vehicle to rapidly prototype and iteratively field critical enhancements with capabilities delivered to the fleet in order to ensure "first look, first

shot, first kill” capability in highly contested environments. Funds garnered from the divestment of F-22 Block-20s have been reinvested in NGAD development across the FYDP. The transition timeline from F-22 to NGAD is dependent on the progress of NGAD development efforts.

F-15

The F-15C/D supports both Homeland Defense and the air superiority mission. Our F-15C fleet is aging, with two-thirds of the fleet past its designed service life. The 186 F-15C/Ds in the Air Force inventory will reach the end of their design service life in the next six to eight years, and our analysis shows additional service life extension programs are not cost effective. The FY23 President’s budget request divests 67 F-15C/Ds from the active fleet. We have already started to replace this fleet with a modernized successor by purchasing the F-15EX. The F-15EX “Eagle II” will provide superior sensor, range, and payload for Critical Infrastructure Protection. The Eagle II additionally brings outsized long range weapons (i.e., air-to-surface and air-to-air) into a peer fight. The FY23 President’s budget request procures 24 F-15EX aircraft at a cost of \$2.7 billion. Notably, the Air Force remains fully committed to advanced 5th and next generation capabilities and the F-35. The decision to refresh the 4th generation fighter force with the F-15EX is a complementary step to both F-35 procurement and NGAD development, and helps mitigate capacity risk while balancing near-term readiness concerns.

The existing F-15E Strike Eagle fleet provides all-weather, long range global precision attack in all but the highest threat environments. The FY23 President’s budget requests \$772 million in FY23 to continue modernization efforts to ensure the aircraft remains viable to the 2030s. Modernizing the F-15E with Early Passive Active Warning Survivability System (EPAWSS), also used on the F-15EX, demonstrates our commitment to building a more lethal Air Force. EPAWSS will allow the F-15E/EX to survive to attack targets in high threat environments.

F-16

The F-16 is the Air Force’s primary multi-role fighter and Suppression of Enemy Air Defense (SEAD) aircraft. Our more than 600 late block F-16s will provide affordable capacity for the next 15 or more years, in both competition and more permissive combat environments. We are beginning to transition away from our oldest, early block F-16s, with a reduction of 76 planned through FY24. We will continue to modernize the late block F-16s we keep as our “affordable capacity” fighter into the 2040s. The F-16 investment strategy funds modifications

for the most capable, late block aircraft to ensure they can operate and survive in today's threat environment. The FY23 President's budget requests \$970.7 million in FY23 to continue these modernization efforts. This includes continuing the Service Life Extension Program comprising 12 structural modifications, affecting 450 aircraft, as well as several avionics capability upgrades including the Active Electronically Scanned Array (AESA) Radar upgrade. The new radar replaces the current mechanically scanned radar, with greater ability to detect, track, and identify low-observable, low-flying, and slow-flying targets. This joint emerging operational need of 72 radar systems is complete and fielded. The underway Phase 3 will install an additional 444 radar systems across the Combat Air Force (CAF), Air Force Reserve Command (AFRC), and Air National Guard (ANG), bringing critical capabilities to the F-16 platform to meet aerospace control alert mission requirements to properly defend the homeland against modern threats. These radars continue fielding in FY23.

A-10

The A-10 remains an effective close air support platform for the current Counter Violent Extremist Organization fight. With very limited utility in a contested fight, we are right-sizing our A-10 fleet for the current and anticipated future demand and then structurally extending and modernizing the aircraft we keep. We have installed 172 new wings on our A-10 fleet and an additional order of 50 wings has been placed and is set to be received from May 2022 through 3QFY25. Once all wing replacements have been installed, the Air Force will have a complete A-10 fleet of 218 aircraft. As we will continue to modernize 218 A-10s, we will reduce the fleet by 21 in FY23. The FY23 President's budget requests \$156.4 million (Procurement; and Research, Development, Test, and Evaluation funds) in FY23 for modernization.

Trainers

T-1, T-6, and T-38

The Air Force is continuing investment efforts in its trainer platforms, including critical modernization programs for the T-6 and T-38 fleets. The T-1A fleet is scheduled for divestment between FY23 and FY25. Training of future Mobility pilots, currently being conducted in the T-1A Aircraft, will be accomplished in the T-1A simulators using procedures developed from the Pilot Training Next Innovation Cell at Air Education and Training Command (AETC). The T-6 continues mitigation efforts for the aircraft with the On-Board Oxygen Generation System (OBOGS) to improve the safety of pilot training and address Unexplained Physiological Events

(UPEs). To date, mitigation efforts have resulted in an 82% reduction in UPEs. Expected completion of Enhanced OBOGS mitigation efforts is mid-FY24. In FY23, the T-6 will start a major Avionics Replacement Program (ARP) to address Diminishing Manufacturing Sources and Materiel Shortages (DMSMS) for critical avionics issues. For the T-38, modifications are also required to sustain and upgrade the fleet until the T-7A delivers, including avionics, Pacer Classic III, Talon repair, inspections, maintenance, and front canopy replacement programs. The FY23 President's budget requests \$6.3 million, \$13.8 million, and \$121.3 million for the T-1, T-6, and T-38 fleets, respectively.

T-7A

The T-7A Advanced Pilot Trainer replaces AETC's existing fleet of 427 T-38C aircraft with 351 aircraft and associated simulators, ground equipment, spares, and support equipment. The T-7A will provide student pilots with the skills and competencies required to be better prepared to transition into 4th and 5th generation fighter and bomber aircraft. The T-7A program uses a digital engineering approach, which offers significant benefits particularly during the design and build phases. Digital engineering reduces development times, lowers production costs, and allows greater collaboration between the Air Force and Boeing. Modern digital engineering practices are more efficient and yield tangible results by reducing design costs, reducing production support manpower, improving first time quality by 75%, and reducing assembly hours by 80% through task reduction. Additionally, the use of these digital engineering practices and early prototyping enabled the Air Force and Boeing team to identify aerodynamic instability issues at least 22 months earlier in the testing phase than possible using traditional development processes.

The FY23 President's budget request continues the program's Engineering and Manufacturing Development (EMD) and early aircraft flight test efforts, and procures long lead support equipment, ensuring we meet the 2026 Initial Operational Capability and 2034 Full Operational Capability milestones. Rollout of the first EMD T-7A is scheduled to occur April 28, 2022. The Air Force remains committed to working with Boeing to enable the T-7A program to achieve Milestone C in 1QFY24.

Munitions

To meet the priorities outlined in the NDS, the Air Force must maintain a suite of affordable air-to-air and air-to-ground kinetic and non-kinetic weapons delivering capability and

capacity to defeat rapidly evolving competitors. As such, we continue to procure preferred munitions, but are tapering production as programs approach warfighter inventory objectives, while simultaneously investing in new technology to counter future peer threats in highly contested environments. The FY23 President's budget request continues to modernize the munitions inventory to enable the future USAF construct. A fiscally constrained environment requires difficult risk-based decisions to offset development and procurement of new weapons. We must accept some near-term risk to build the munitions inventory needed for the future.

The Air Force has shaped its investment based on the correct mix of munitions, aligned with current OSD and Joint Staff planning guidance. This includes balancing stand-off and stand-in munitions. Advanced stand-in weapons bring great capability to penetrating platforms, while stand-off weapons provide adequate range to keep 4th generation aircraft relevant in high-end conflicts. Combined, they provide the volume of fires required to prevail in conflict when necessary.

Weapons that advance USAF capability include advanced air-to-air weapons, the Stand-in Attack Weapon (SiAW), Joint Air-to-Surface Standoff Missile-Extended Range (JASSM-ER), Air-launched Rapid Response Weapon (ARRW), and Hypersonic Attack Cruise Missile (HACM). The USAF will continue to collaborate with the U.S. Navy to share cost and technology. This partnership is critical in countering naval air defense threats.

Joint Direct Attack Munition and Small Diameter Bomb

The Joint Direct Attack Munition (JDAM) inventory levels are approaching objective quantities after several years at high levels of production funding. Current procurement is being held to minimal levels, pending fielding of guidance kit with GPS Military Code (M-Code) receivers and antennas. After increasing tailkit production to 45,000 tailkits per year in FY18 to meet the needs of the Services and Foreign Military Sales (FMS) partners, the Air Force has adjusted to demand and now plans to procure 4,200 tailkits in FY23 with a request of \$251.9 million, with U.S. Navy and FMS partners procuring the remaining production capacity.

Small Diameter Bomb I (SDB I) and II (SDB II) provide reduced collateral damage effects and increased load-out per sortie. Due to its high operational utility, the Air Force ramped the line for SDB I from 3,000 weapons per year in FY15 to 8,000 weapons in FY17. With demand dropping and advanced standoff weapons in higher demand, the FY23 President's budget requests \$ 46.5 million and plans to order 356 weapons, leaving residual production

capacity available to FMS partners. For SDB II, the FY23 President's budget requests \$279.0 million to procure 761 weapons.

Joint Air-to-Surface Standoff Missile and Advanced Medium Range Air-to-Air Missile

As the Air Force responds to current operational demands, we are also looking to the future to ensure we are prepared to defend against more advanced threats as directed in the NDS. Doing so requires advanced weapons capabilities and the FY23 President's budget request reflects the Air Force's plan to continue investing in those areas, specifically with the Joint Air-to-Surface Standoff Missile (JASSM), the Long-Range Anti-Ship Munition (LRASM), and the Advanced Medium Range Air-to-Air Missile (AMRAAM). These weapons provide unique and necessary capabilities for the highly contested environment.

JASSM is the premier air-to-ground, low observable missile for defeating threats in highly contested environments and is the weapon of choice for a future fight against peer adversaries. The program is focused on increasing inventory by implementing a strategy to ramp up production rates and monitor subsystems for obsolescence. To achieve this, we have partnered with industry to expand production capacity to satisfy a 47% increase in our inventory objective. The FY23 President's budget requests \$790 million, which uses the full capacity of the second Lockheed Martin production line with 550 missiles.

LRASM, produced in the same facility as JASSM, is a purpose-built anti-ship missile particularly critical for the future fight in a maritime environment. The FY23 President's budget requests \$114 million to procure 28 missiles.

The Air Force continues to invest in the next generation medium and long-range air-to-air missiles. AMRAAM is still in production and meets today's requirements, but we will also need to invest to maintain our long history as the world's best Air Superiority Air Force. The Air Force is requesting \$324 million for 271 missiles, as industry partners begin to cut-in a solution to obsolescence issues through the Form Fit Function Refresh (F3R) effort.

Stand-In Attack Weapon (SiAW)

To defend the nation in an increasingly competitive global environment, we must look beyond currently fielded weapons systems and invest in future advanced munitions capabilities. To that end, the Air Force continues to invest in development of the Stand-in Attack Weapon (SiAW) to deliver a strike capability to defeat rapidly relocatable targets, a hallmark of the highly contested environment. SiAW is the munition that gives the F-35 unique air-to-surface

capabilities in the high end fight for the Joint Force. The FY23 President's budget requests \$283 million for SiAW development and prototyping, along with \$78 million in procurement funding to field Advanced Anti-Radiation Guided Missile Extended Range (AARGM-ER) on the F-35 as an interim capability.

Hypersonics

The USAF is developing and fielding long-range, hypersonic strike weapons. The Hypersonic Air Launched Cruise Missile (HACM) and the Air-Launched Rapid Response Weapon (ARRW) will enhance our Global Strike capability in future contested environments. The AGM-183A ARRW requests \$114.9 million in FY23 to complete its flight test program. The Air Force has prioritized completion of the ARRW flight test program and will revisit a production decision in the FY24 planning process. The HACM is a planned system for fighter integration and increased load-out for bombers. HACM addresses urgent national defense needs and provides a credible deterrent to adversaries. The FY23 President's budget request of \$462 million for HACM development is designed to result in production article procurement by FY27.

Intelligence, Surveillance, and Reconnaissance

The Air Force is focusing Intelligence, Surveillance, and Reconnaissance (ISR) resources on efforts that provide high quality tracking and target coordinates, establish meaningful data nodes to give tactical direction, and optimize weapon systems with information that matters in the most useful formats, at speed and scale. To meet the challenges of a highly contested environment, the future ISR portfolio will consist of a multi-domain, multi-intelligence, collaborative sensing grid that uses advanced technology. The end goal is a ready Next Generation ISR Enterprise possessing a decisive advantage for the warfighter while remaining competent across the entire spectrum of conflict.

The ability to win future high-end conflicts requires accelerating investment to transition our ISR force structure into a connected, persistent, and survivable force. To achieve this, we must move away from expensive legacy systems that offer limited capability against future competitors. The FY23 President's budget request takes further steps towards repurposing, retooling, automating, and stabilizing the force to ensure the ISR Enterprise can achieve this vision within the next decade.

MQ-9

The FY23 President's budget request of \$208.2 million will continue MQ-9 fleet modernization efforts aimed at providing needed capabilities to the Combatant Commands. To date the MQ-9 fleet has flown over 2.75 million hours, with approximately 91% of those hours supporting combat operations. This level of warfighter support is facilitated by a unique program architecture in which MQ-9 sustainment and modernization efforts are managed as separate, yet fully integrated and complementary, programs of record. This allows the Air Force to focus on operating and sustaining fielded MQ-9s while development and testing of planned modernizations are conducted in parallel. By structuring this way, mature and proven upgrades for the program at large are delivered when and where they are needed.

MQ-9 modernization efforts include the continued development of MQ-9 Multi-Domain Operations (M2DO) capability upgrades that will keep the fleet relevant. The upgrades in the M2DO configuration include Anti-jam GPS, Command and Control Resiliency, Enhanced Power, Link-16, and an effective and reliable open systems architecture.

The FY23 President's budget request removes 250 aircraft from the inventory over the FYDP. The Air Force will first remove all Block 1 aircraft between FY23 and FY24, and then will remove high time Block 5 aircraft between FY26 and FY27. The remaining fleet of 140 Block 5 aircraft will continue to meet Combatant Command requirements.

RC-135

The Air Force is committed to sustaining and upgrading the RC-135 fleet as it continues to be our most capable, relevant, and viable signals intelligence platform. Continued modernization using rapid acquisition and fielding processes is critical as we address emerging peer threats and great power competition. The RC-135 is critical to our decision advantage as it provides vital intelligence data at unrivaled speeds to both the national-level intelligence community and the tactical-level warfighter today and in any future highly contested conflict.

The FY23 President's budget request facilitates mission system improvements for the RC-135 variant fleet. Efforts include the automation of additional search and detection capabilities, improved near-real-time data distribution and collaborative processing, and exploitation and dissemination supported by enhanced artificial intelligence algorithms. Also, the second and third KC-135 to WC-135 conversions will be accomplished and delivered in FY23. Finally, the recent extension of the standard-setting RC-135 cooperative agreement with the

United Kingdom's Royal Air Force (RAF) to 2035, as well as the integration of RC-135 derived sensor technologies on the Australian Royal Australian Air Force (RAAF) MC-55 Peregrine, continue to strengthen alliances globally while increasing partner interoperability.

RQ-4

The RQ-4 Global Hawk remotely piloted aircraft system provides high altitude, long endurance, all weather, wide area reconnaissance and surveillance. The FY23 President's budget request of \$116 million will maximize Block 40 utility through the remainder of the Global Hawk service life, to include fielding the modernized ground segment and addressing diminishing manufacturing sources issues.

The Ground Segment Modernization Program is on track to complete installation of upgraded cockpits at Grand Forks Air Force Base and Beale Air Force Base in FY23. Finally, the Air Force plans to divest Block 40 by FY27, at which time space-based Ground Moving Target Indicator is expected to meet Combatant Commander's needs in accordance with the NDS. The reduced investment in the RQ-4 also enables the Department to better align resources with the NDS.

EC-37B COMPASS CALL

COMPASS CALL is the Air Force's only wide-area, standoff, Airborne Electromagnetic Attack (AEA) Command and Control Warfare/Information Operations weapon system. The COMPASS CALL program is currently undergoing a re-host effort to transition the capability from the EC-130H to the EC-37B in order to maintain U.S. Electromagnetic Spectrum (EMS) Superiority in future conflicts. To date, six EC-37B aircraft have been procured and are undergoing modification, with limited fielding for training only in FY24, and initial operational fielding in FY26.

The Air Force has included procurement of the last four planned EC-37Bs as part of the FY23 Unfunded Priority List (UPL). Additionally, the FY23 PB accelerates development of the mission system upgrade for the fielding of System Wide Open Reconfigurable Dynamic Architecture (SWORD-A) capabilities. The open and agile architecture of SWORD-A will enable a more rapid response capability against emerging threats and will be included on aircraft number six initially and then to the first five aircraft as an upgrade modification.

E-8C JSTARS

The E-8C JSTARS provides wide-area Ground Moving Target Indicator (GMTI) capability and dynamic Battle Management Command and Control (BMC2). JSTARS aircraft will have survivability challenges in future scenarios, as airborne GMTI platforms have to operate closely (from within contested areas) to adequately sense ground moving targets. The future of the GMTI is a pivot to space. Additionally, this pivot is imperative due to the increasingly prohibitive cost to sustain the platform and maintain a relevant capability across the spectrum of operations. As such, the Department is transitioning from legacy airborne GMTI platforms to space-based capabilities, where sensing will be possible in anti-access/area denial (A2/AD) scenarios. As part of this transition, the Air Force began divestiture of the JSTARS fleet in FY22 and will divest eight aircraft in the FY23 President's budget request, leaving three aircraft in the active fleet.

E-3 AWACS

The E-3 AWACS provides wide-area Airborne Moving Target Indicator (AMTI) capability and dynamic Battle Management Command and Control (BMC2) to build an accurate battlespace picture. The FY23 President's budget request of \$67 million funds modernization efforts to address diminishing manufacturing sources (DMS) to maintain existing AWACS BMC2 capabilities. Despite modernization efforts, the aging E-3 AWACS offers limited operational utility in contested conflicts, creating an operational imperative to replace it. The AMTI capability of the E-3 AWACS presents a significant capability gap with no present long term Air Force capability to compete in the high end fight. The E-3 Replacement program will close the capability gap by enabling the long range kill chain, enhancing reliability and availability, and reducing operating costs by integrating a modern Electronically Scanned Array sensor on a crewed platform. An electronically scanned array will be capable of radar beam steering, sector staring, and much faster target revisit rates that translate into better target detection and tracking of modern threats, as well as more robust Electronic Protection not possible with the mechanically scanned radar on the E-3 AWACS. The FY23 President's budget request begins the transition to a more capable replacement platform by divesting the first 15 E-3 aircraft in FY23. This fleet reduction will allow the Air Force to concentrate resources and improve E-3 aircraft availability rates while efforts to identify the replacement capability are underway. Full fleet divestment is currently scheduled to occur by FY29, therefore most modernization programs are being terminated except mandated requirements for crypto and

communication systems as well as safety of flight efforts. The FY23 President's budget request funds the development and delivery of two production representative prototype aircraft to support test and evaluation and associated ground support and training systems.

Connecting the Joint Force

One effort that will stress how fast and smart our requirements, acquisition, and operations process can move is Joint All-Domain Command and Control (JADC2) powered by the Advanced Battle Management System (ABMS). Charged by the Secretary of Defense with leading the concept development for JADC2, the Department of the Air Force is building ABMS to create decision superiority by delivering relevant information and capabilities to warfighters and operators at all echelons. ABMS will integrate today's and tomorrow's sensors; develop applications embedded with artificial intelligence, sophisticated algorithms, and multi-layered protections to make sense of massive amounts of trusted data; link space capabilities with weapons systems and personnel across all domains; and design pods, platforms, pathways, procedures, and policies that connect and integrate the warfighter better and faster than in any time in our history.

Operationally optimized ABMS/JADC2 is one of the Secretary of the Air Force's Operational Imperatives (OIs) and is a foundational capability in many other OIs. The ABMS acquisition effort will pursue two interconnected investment paths: enduring digital infrastructure investments and Capability Release packages, which leverage those enduring investments but focus on closing kill-chains and delivering immediate operational capability. The Department of the Air Force (DAF) Rapid Capabilities Office (RCO) is working in conjunction with the wider acquisition community to ensure Air Force and Space Force systems have seamless interoperability and compatibility to meet the JADC2 operational requirements. The six ABMS capabilities required to connect the warfighter are secure processing, connectivity, data management, applications, sensor integration, and effects integration.

Driven by requirements approved by the Chief of Staff of the United States Air Force and the Chief of Space Operations, Capability Release #1 (CR #1) (Airborne Edge Node) connects select tactical assets and C2 functions to the transport layer and the ABMS digital infrastructure at the tactical edge, enhancing situational awareness and decision making at the tactical, operational, and strategic levels.

Thank you again for the opportunity to testify. We look forward to working with this subcommittee to ensure the Department of the Air Force maintains sufficient military advantage to secure our vital national interests and support our allies and partners in Fiscal Year 2023 and beyond.